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EXAMINER	
WANG, JACK K	

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2612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,308	ARAI ET AL.	
	Examiner	Art Unit	
	JACK WANG	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim limitation of "a second resonance circuit" was not disclosed in the original disclosure. Therefore, this limitation is considered as new matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nicholson et al. (US Patent # 6,563,425 B2).

Consider claim 1, Nicholson et al. clearly show and discloses a product management system comprising: a first resonance circuit (14, Fig. 8A); a second resonance circuit (passive repeater apparatus) (40, Fig. 8A); and a reader/writer (2, Fig. 1) (Column 3 lines 40-46) for at

least one of reading information stored in a semiconductor device (tag) (14, Fig. 8A) and writing information in the semiconductor device (14, Fig. 8A) (Column 3 lines 28-34), wherein the first resonance circuit (14, Fig. 8A) comprises an antenna coil and a capacitor (Column 2 lines 39-42 shown in incorporated reference US Patent #6,100,804), wherein the second resonance circuit (40, Fig. 8A) comprises a second antenna coil (16, Fig. 8A) and a second capacitor (32, Fig. 5) (Column 4 lines 21-25), wherein a first packing material (49, Fig. 8B) for packing a product is provided with the first resonance circuit (14, Fig. 8B), wherein a second packing material (48b, Fig. 8B) for packing the first packing material (49, Fig. 8B) is provided with the second resonance circuit (40, Fig. 8A), wherein the product (49, Fig. 8B) is provided with the semiconductor device (RFID tag) (14, Fig. 8B), wherein the second resonance circuit (40, Fig. 8A) can communicate with the reader/writer (2, Fig. 1) and the first resonance circuit (14, Fig. 8A) (Column 3 lines 40-46), and wherein the first resonance circuit (14, Fig. 8A) can communicate with the reader/writer (2, Fig. 1) and the semiconductor device (RFID tag) (14, Fig. 8A) (Column 3 lines 40-46).

Consider claim 2, Nicholson et al. clearly show and discloses the product management system, wherein a communication method between the reader/writer (2, Fig. 1) and the first resonance circuit (14A, Fig. 8A) and the second resonance circuit (40A, Fig. 8A), and a communication method between the second resonance circuit and the semiconductor device are identical to each other (inherent within repeater) (Column 1 lines 52-64).

Consider claim 3, Nicholson et al. clearly show and discloses the product management system, wherein the communication method is an electromagnetic induction (magnetic flux) method (Column 1 lines 52-64).

Consider claim 4, Nicholson et al. clearly show and discloses the product management system, wherein a communication method between the reader/writer and the resonance circuit (15, Fig, 8B) is different from a communication method (activate and passive) between the resonance circuit (15, Fig. 8B) and the semiconductor device (14, Fig. 8B) [Column 1 lines 35-36).

Consider claims 5 and 7, Nicholson et al. clearly show and disclose the product management system, wherein the communication method between the reader/writer (2) and the second resonance circuit (40, Fig. 7) is any one of an electromagnetic (magnetically) induction method and a microwave method (Column 4 lines 63-65).

Consider claim 8, Nicholson et al. clearly show and discloses the product management system, wherein the semiconductor device is selected from the group of an ID tag, an ID chip, an ID label, an ID seal and an ID sticker (Column 3 lines 35-40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicholson et al. (US Patent # 6,563,425 B2).

Consider claim 6, Nicholson et al. clearly show and discloses a product management system comprising: a first resonance circuit (14, Fig. 8A); a second resonance circuit (passive

repeater apparatus) (40, Fig. 8A); and a reader/writer (2, Fig. 1) (Column 3 lines 40-46) for at least one of reading information stored in a semiconductor device(tag) (14, Fig. 8A) and writing information in the semiconductor device (14, Fig. 8A) (Column 3 lines 28-34), wherein the first resonance circuit (14, Fig. 8A) comprises an antenna coil and a capacitor (Column 2 lines 39-42 shown in incorporated reference US Patent # 6,100,804), wherein the second resonance circuit (40, Fig. 8A) comprises a second antenna coil (16, Fig. 8A) and a second capacitor (32, Fig. 5) (Column 4 lines 21-25), wherein a first packing material (49, Fig. 8B) for packing a product is provided with the first resonance circuit (14, Fig. 8B), wherein a second packing material (48b, Fig. 8B) for packing the first packing material (49, Fig. 8B) is provided with the second resonance circuit (40, Fig. 8A), wherein the product (49, Fig. 8B) is provided with the semiconductor device (RFID tag) (14, Fig. 8B), wherein the second resonance circuit (40, Fig. 8A) can communicate with the reader/writer (2, Fig. 1) and the first resonance circuit (14, Fig. 8A) (Column 3 lines 40-46), and wherein the first resonance circuit (14, Fig. 8A) can communicate with the reader/writer (2, Fig. 1) and the semiconductor device (RFID tag) (14, Fig. 8A) (Column 3 lines 40-46).

Nicholson et al. does not teach wherein a communication range between the reader/writer and the resonance circuit is longer than a communication range between the resonance circuit and the semiconductor device.

Although Nicholson et al. does not specifically disclose a communication range between the reader/writer and the resonance circuit is longer than a communication range between the resonance circuit and the semiconductor device. He does disclose the invention for extending the read/write range between an RFID reader/writer and a designated tag (Column 3 lines 21-34).

Since the communication range betweens resonance circuit (passive repeater apparatus) (40, Fig. 8A) and semiconductor device (RFID tag) (14, Fig. 8A) is fixed. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine that the extended read/write range as shown in Nicholson et al. is longer then a fixed range between resonance circuit and semiconductor device.

7. Claims 9-12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al. (Pub # US 2004/0217867 A1), and further in view of Van De Walle et al. (Pub # US 2004/0245519 A1) and Nicholson et al. (Pub # US 2002/0021208 A1).

Consider claim 9, Bridgelall et al. teaches a method comprising: sending at least one of a first signal (38, Fig. 4) comprising first information and a first electric power from a reader/writer (interrogator) to a resonance circuit (relay device) (35, Fig. 4), sending at least one of a second signal (36, Fig. 4) comprising the first information and a second electric power from the resonance circuit (relay device) (23, Fig. 4) to a semiconductor device (RFID tags) (22, Fig. 1) in response to a receipt of said at least one of the first signal (38, Fig. 4) and the first electric power; sending a third signal (34, Fig. 4) comprising second information from said semiconductor device (RFID tags) (22, Fig. 1) to the resonance circuit (relay device) (23, Fig. 4) in response to a receipt of said at least one of the second signal (34, Fig. 4) and the second electric power by the semiconductor device (relay device) (23, Fig. 4), sending a fourth signal (36, Fig. 4) comprising said second information from the resonance circuit (relay device) (35, Fig. 4) to the reader/writer (interrogator) [0027].

Bridgelall et al. does not teach wherein said semiconductor device comprises a thin film integrated circuit portion comprising an antenna coil and a capacitor, and wherein the semiconductor device is attached to a product, the product is contained in a packing material, the resonance circuit is attached to the packing material and the reader/writer is disposed outside of the packing material.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film [0039 lines 12-15], an antenna (41, Fig. 6) [0039 lines 28-29], and a capacitor (13, Fig. 6) for the benefit of providing micro contact printing to reduce the manufacturing cost of RFID tag.

Furthermore, Nicholson et al. teaches wherein the semiconductor device (RFID tag) (14, Fig. 8B) is attached to a product (49, Fig. 8B), the product (49, Fig. 8B) is contained in a packing material (48b, Fig. 8B), the resonance circuit (17, Fig. 8B) is attached to the packing material (48b, Fig. 8B) and the reader/writer is disposed outside of the packing material (48b, Fig. 8B) for the benefit of extending the read/write range of the designated tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film, an antenna, and a capacitor as shown in Van De Walle et al., and the semiconductor device is attached to a product, the product is contained in a packing material, the resonance circuit is attached to the packing material and the reader/writer is disposed outside of the packing material as shown in Nicholson et al., in Bridgelall et al. method for the benefit of providing micro contact printing to reduce the manufacturing cost of RFID tag and extending the read/write range of the designated tag.

Consider claim 10, Bridgelall et al. teaches a method comprising: sending at least one of a first signal (38, Fig. 4) comprising first information and a first electric power from a reader/writer (interrogator) to a resonance circuit (relay device) (35, Fig. 4), sending at least one of a second signal (36, Fig. 4) comprising the first information and a second electric power from the resonance circuit (relay device) (23, Fig. 4) to a semiconductor device (RFID tags) (22, Fig. 1) in response to a receipt of said at least one of the first signal (38, Fig. 4) and the first electric power; sending a third signal (34, Fig. 4) comprising second information from said semiconductor device (RFID tags) (22, Fig. 1) to the resonance circuit (relay device) (23, Fig. 4) in response to a receipt of said at least one of the second signal (34, Fig. 4) and the second electric power by the semiconductor device (relay device) (23, Fig. 4), sending a fourth signal (36, Fig. 4) comprising said second information from the resonance circuit (relay device) (35, Fig. 4) to the reader/writer (interrogator) [0027], sending a fifth signal comprising said second information from the second resonance circuit to the first resonance circuit, sending a sixth signal comprising said second information from the first resonance circuit to the reader/writer [0026 lines 17-25], except wherein said semiconductor device comprises a thin film integrated circuit comprising a thin film transistor and an antenna, and wherein the semiconductor device is attached to a product, the product is contained in a second packing material, the second resonance circuit is attached to the second packing material, the second packing material is contained in a first packing material, the first resonance circuit is attached to the first packing material, and the reader/writer is disposed outside of the first packing material.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film

transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6) [0039 lines 28-29] for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Furthermore, Nicholson et al. teaches the semiconductor device (RFID tag) (14, Fig. 8B) is attached to a product (49, Fig. 8B), the product (49, Fig. 8B) is contained in a first packing material (48b, Fig. 8B), the first resonance circuit (17, Fig. 8B) is attached to the first packing material (48b, Fig, 8B), and the reader/writer is disposed outside of the first packing material (48b, Fig, 8B) fort the benefit of extending the read/write range to designated tag. Although Nicholson et al. does not specifically disclose the second resonance circuit is attached to the second package packing material. He does disclose the first packaging material (48b, Fig, 8B) and first resonance circuit (17, Fig. 8B). Applicant has not disclosed that the second packaging material and second resonance circuit provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with any redundant intermediate layers of packing materials and resonance circuits attached to it. Therefore, it would have been obvious to one of ordinary skill in this art to add additional redundant layers to obtain the invention as specified in the claim 10.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al. and the semiconductor device is attached to a product, the product is contained in a second packing material, the second resonance circuit is attached to the second packing material, the second packing material is contained in a first packing material, the first resonance circuit is attached to

the first packing material, and the reader/writer is disposed outside of the first packing material as shown in Nicholson et al., in Bridgelall et al. method for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag and extending the read/write range to designated tag.

Consider claim 11, Bridgelall et al. clearly shown and disclose the method, wherein the semiconductor device is an ID tag [0003 lines 5-8].

Consider claim 12, Bridgelall et al. clearly shown and disclose the method, wherein the first packaging material (40, Fig. 5) is a container [0028 lines 6-9].

Consider claim 18, Bridgelall et al. teaches the similar method.

Bridgelall et al. does not teach wherein the resonance circuit further comprises any one of a battery, a CPU and a memory.

In the same field of endeavor, Nicholson et al. teaches the method, wherein the resonance circuit further comprise any one of a battery, a CPU and a memory (Column 2 lines 39-42 shown in incorporated reference US Patent # 6,100,804) for the benefit of forming self-powered active tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include wherein the resonance circuit further comprises any one of a battery, a CPU and a memory as shown in Nicholson et al., in Bridgelall et al. device for the benefit of forming self-powered active tag.

8. Claims 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicholson et al. (US Patent # 6,563,425 B2) in view of Van De Walle et al. (Pub # US 2004/0245519 A1).

Consider claim 13, Nicholson et al. teaches a product management system comprising: a semiconductor device (14, Fig. 8A); a resonance circuit (passive repeater apparatus) (40, Fig. 8A); and a reader/writer (2, Fig. 1) (Column 3 lines 40-46) for at least one of reading information stored in a semiconductor device (tag) (14, Fig. 8A) and writing information in the semiconductor device (14, Fig. 8A) (Column 3 lines 35-46), wherein the resonance circuit comprises an antenna coil (16, Fig. 8A) and a capacitor (embedded within antenna circuit) (Column 4 lines 21-24), wherein a packing material (48a, Fig. 8A) for packing a product (49, Fig. 8B) is provided with the resonance circuit (passive repeater apparatus) (40, Fig. 8A), wherein the product (49, Fig. 8B) is provided with the semiconductor device (RFID tag) (14, Fig. 8B), wherein the resonance circuit (passive repeater apparatus) (40, Fig. 8A) can communicate with the reader/writer (inherent within RFID system) and the semiconductor device (RFID tag) (14, Fig. 8A).

Nicholson et al. does not teach wherein the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6) [0039 lines 28-29] for the benefit of providing micro contact printing to reduce the manufacturing cost of RFID tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al., in Nicholson et al. device for the benefit of providing micro contact printing to reduce the manufacturing cost of RFID tag.

Consider claim 14, Nicholson et al. clearly show and discloses the product management system, wherein a communication method between the reader/writer and the resonance circuit is identical to a communication method between the resonance circuit and the semiconductor device (Column 2 lines 7-19).

Consider claim 15, Nicholson et al. clearly show and discloses the product management system, wherein the communication method is an electromagnetic (magnetic flux) induction method (Column 1 lines 65-67 and Column 2 lines 1-6).

Consider claim 16, Nicholson et al. clearly show and discloses the product management system, wherein a communication method (active method) between the reader/writer and the resonance circuit (15, Fig, 8B) is different from a communication method (passive) between the resonance circuit (15, Fig. 8B) and the semiconductor device (14, Fig. 8B) (Column 1 lines 35-36).

Consider claim 17, Nicholson et al. clearly show and disclose the product management system, wherein the communication method between the reader/writer (2, Fig. 1) (Column 3 lines 40-46) and the resonance circuit (40, Fig. 8A) is any one of an electromagnetic (magnetic flux) induction method and a microwave method (Column 1 lines 65-67 and Column 2 lines 1-6).

Consider claim 19, Nicholson et al. clearly show and disclose the method, wherein the resonance circuit further comprise any one of a battery, a CPU and a memory (Column 2 lines 39-42 shown in incorporated reference US Patent # 6,100,804).

Response to Arguments

9. Applicant's arguments, see Remarks, filed 12/22/2009, with respect to Claim Objections have been fully considered and are persuasive. The Objections of Claims 8 and 11 has been withdrawn.

10. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACK WANG whose telephone number is (571)272-1938. The examiner can normally be reached on M-F 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Bugg can be reached on 571-272-2998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JACK WANG/
Examiner, Art Unit 2612

/George A Bugg/

Primary Examiner, Art Unit 2612